

Tyfo® AFP

Advanced Fire Protection



Tyfo® AFP Description

Tyfo® AFP is a system used to protect the Tyfo® Fibrwrap® System from fire. A layer of Tyfo® VG (a fire insulator) is spray applied to the Fibrwrap® using the Tyfo® VG Primer and Dash Coat. Tyfo® EI and EI-R are unique coatings which can be sprayed over the VG as a finish coat. This combination of VG/EI-R has been shown by testing to protect the Fibrwrap® System from extreme heat.



Tyfo® VG application complete



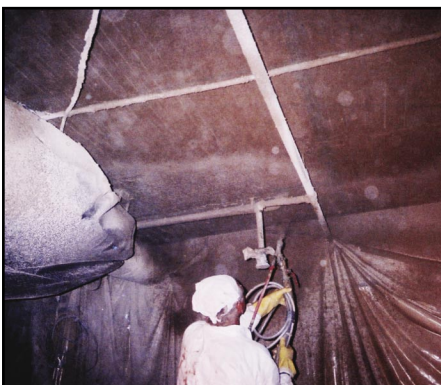
Tyfo® EI-R trowel-applied



Tyfo® Carbon Composite applied



First lift of Tyfo® VG sprayed-applied



Subsequent lifts of Tyfo® VG applied

Tyfo® AFP Features

- ① Tyfo® VG is easy to spray in-place and bonds very well to Fibrwrap®. When applied within the initial cure period, a chemical bond is achieved.
- ② Tyfo® EI-R gives an aesthetic and durable finish. System is hard to the touch.
- ③ System has been tested to ASTM E119 and successfully passed 4 hour under load tests for concrete columns and beam/slab assemblies. Passed 2-4 hour slab test.
- ④ Could be used to protect concrete, steel or Composite Rebar without Fibrwrap®.
- ⑤ Ideal for slabs and beams.



Tyfo® EI-R being applied around obstacles



Completed application



Application of Tyfo® EI-R

Tyfo® AFP Concept

The concept of Tyfo® AFP is to use a fire insulator (VG) in combination with a coating (Tyfo® EI-R) to resist fire. The combination of materials is very effective as proven in testing. The summary of testing follows.

Complete UL Reports are available.

Application	VG/EI-R Thickness to pass ASTM E119		
	Testing Rating in Hours		
	4-Hour	3-Hour	2-Hour
Circular Columns	1" (25mm)	**	**
Square Columns	1-5/8" (41mm) *	**	**
Slabs	1" (25mm)	**	**
Beam/Slab Assemblies	1-3/8" (35mm) *	1-1/16" (27mm)	3/4" (19mm)

* UL Rating.

** Consult with Fyfe Co. LLC for design thickness.

ASTM E84 Rating: **Class 1**, Flame = **0** Smoke = **15**

Ask for report on testing —

· "Summary Report on Fire Testing for Tyfo® Fibrowrap® with AFP (Advanced Fire Protection)."

· UL Fire Resistive Assemblies and Systems Design No. X842 and N790 (www.ul.com)
ULC (Canada) Design No. X824 and N811



Tyfo® VG Application



Tyfo® EI-R Application

Tyfo®
AFP

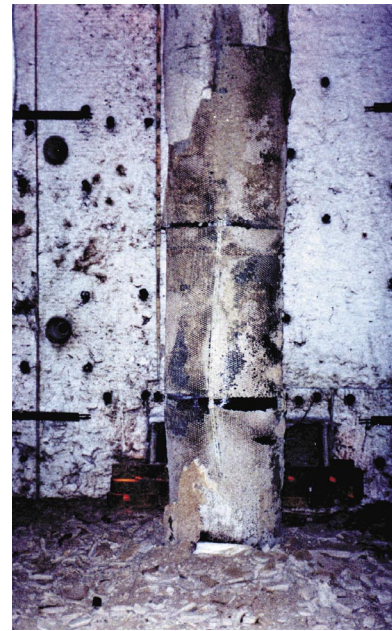
TESTING



Columns to be tested



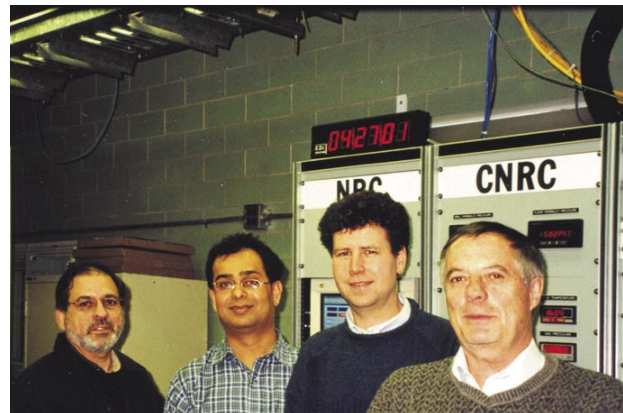
Test chamber with doors open



Columns with Tyfo® Composite - still operational after 5 hours of ASTM E119 testing



Beam/Slab test chamber



The Tyfo® VG/EI-R System, developed by Ed Fyfe (on right), achieved a 4-hour fire rating. Notice the test time (large red numerals above) nearing 4 hours and 30 minutes.

Please inquire to Fyfe Co. for —
 Applicators and pricing
 Specifications
 Current List of Projects
 References

Fyfe Co. LLC

"The Fibrwrap® Company"

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